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TWO NEW BRAZILIAN FRESH-WATER FISHES

By George S. Myers and Stanley H. Weitzman

FAMILY CHARACIDAE

Hyphessobrycon cardinalis, new species

TYPES: Holotype SU 48710, standard length 22.5 mm, from the Rio Negro, Amazonas, Brazil, received from Paramount Aquarium through Dr. William T. Innes. Paratypes, standard length 19.5-21.5 mm, two lots with the same data: 8 specimens in alcohol (SU 48711) and 2 stained in alizarin and cleared in glycerine (SU 48712).

This species is very similar in color, proportions, scale counts and dorsal fin-ray counts to *H. innesi* Myers (1936, Proc. Biol. Soc. Washington, vol. 49, pp. 97-98), the neon tetra, found in the Leticia-Tabatinga region, but differs greatly in the structure of the teeth and jaws; also the anal and pectoral fin-ray counts appear significantly different. A photograph of living specimens of this fish appeared in The Aquarium, 1956, vol. 25, no. 2, p. 41, under the name of "cardinal tetra." In the following description the first numbers given refer to the holotype, the second (in parentheses) to the paratypes, and the third [in brackets] to five specimens of *H. innesi*: SU 47055, one specimen, from the "upper Amazon"; SU 48714, 2 aquarium specimens; and SU 48715, 2 cleared and stained aquarium specimens. All other data unless otherwise stated refer to the specimens of *H. cardinalis*.

DESCRIPTION: Dorsal ii,9 (ii,9)[ii,9]. Dorsal insertion from tip of snout 1.88 (1.93-2.02)[1.85-1.90] in standard length. Anal iii,16 (iii,16-17)[iii,19-20] total count, last ray divided to its base. Anal origin behind last dorsal ray. Anal margin concave; anterior lobe 1.2 in head in holotype. Pectorals i,10 (i,10)[i,11-12]. Pelvics i,7 (i,7)[i,7] reaching to origin of anal in both species. Adipose fin present. Principal caudal rays 10/9 in both species. Caudal naked. Scales in a lateral series 33 (32-33)[32]. Lateral line scales 6 (4-6) [4-5]. Predorsal scales 9 (9) [9]. Gill rakers (stained specimens) (5+11-5+12)[5+10-5+11]. Head 3.7 (3.35-3.90)[3.36-3.42] and depth 3.22 (3.42-3.50)[3.18-3.34] in standard length. Eye 2.40 (2.36-2.47)[2.30-2.75] and least depth of caudal peduncle 3.04 (2.70-2.84)[2.76-3.00] in head. Interorbital 1.56 (1.46-1.57) [1.38-1.70] and snout 1.78 (1.75-1.84)[1-45-1.70] in eye. Great orbital (third orbital bone) rather reduced in size, with a naked border between it

and the preopercle. Occipital process bordered by 2.5 scales in both species, its length about equal to diameter of pupil. Premaxillary with a single row of 5 broad, penticuspid teeth, the central cusp the largest. Maxillary with 1 or 2 tri- or quadricuspid teeth. Dentary with 4-5 large penticuspid teeth and 2-3 small tri- to monocuspid teeth. Total number of dentary teeth in cleared specimens 7-8.

COLOR (in alcohol): A dark silvery band (emerald to blue in life) above midline, extending from snout to upper part of caudal peduncle. Humeral spot indistinct; no caudal spot. Dorsum dark with centers of scales light. Entire body below silvery band light (red in life) except for a few scattered melanophores along base of caudal peduncle and around mouth. Fins rather clear, but distal parts of first four or five rays with scattered melanophores. Lobe of anal with a rather dark area distally.

Hyphessobrycon cardinalis differs from *H. innesi* most significantly in tooth structure and arrangement. All the jaw teeth of *innesi* are tricuspid (except the few small ones in the lower jaw), narrow and with a high central cusp. Those of *cardinalis* are broad and with five cusps. The premaxillary of *innesi* has 6 to 9 teeth and a rather irregular tooth-placement pattern with two rows represented. The number of teeth in the lower jaw of each species is about the same. In life the coloration of *cardinalis* differs from that of *innesi* mainly in that the intense red of the sides extends anteriorly beyond the pelvics and on to the head.

The name *cardinalis* refers to the brilliant red color of the sides.

Because of the absence of what has been known technically as an anterior row of premaxillary teeth, this species would have to be placed, if we follow Eigenmann's system of classification, in the "subfamily" Cheirodontinae. However, recent study, especially by Dr. James Böhlke of the Academy of Natural Sciences of Philadelphia, has demonstrated that this feature (and others) of Eigenmann's classification is highly artificial, some "cheirodontines" being closest to certain "tetragonopterines", and vice versa. *Hyphessobrycon cardinalis* is a very close relative of *H. innesi* Myers and to place it in a different genus would do violence to the obvious relationships. Until the completion of a thorough revision of the generic limits within the "cheirodontines" and "tetragonopterines", any new generic assignment of this species would be both speculative and unwarranted.

FAMILY DORADIDAE

Hassar praelongus, new species

Figure 1

HOLOTYPE: SU 48679, collected at the São Gabriel Rapids of the Rio Negro, Amazonas, Brazil, by Dr. Carl Ternetz, February 1 to 3, 1925.

Of the eight previously known species of the genus, this species agrees only with *H. lipophthalmus* in having (a) the scutes anterior to the pelvic base strong, deep, and easily seen, and (b) the basal part of the dorsal fin blackish. In the following description, the words in parentheses refer to *H. lipophthalmus*.

Dorsal I,6. Anal 13. Lateral scutes 36, strong, the anterior ones deepest and with four or five subsidiary spines above the main median spine and five below, the uppermost of the lower spines nearly as large as the median spine (anterior scutes less deep than those above anal origin). A narrow but evident mid-nuchal groove running back from the fontanelle almost to the end of the occipital process (no such groove present). Eye, with its long adipose eyelid, three fourths as deep as long (almost or

quite twice as long as deep). Length of snout from adipose eyelid to tip over half head length (approximately half head length). Head 3.06 in standard length (3.2 to 3.3). Adipose fin low and longer than high, with no anterior keel (same, but shorter).

MEASUREMENTS OF HOLOTYPE IN MM (and of two examples of *H. lipophthalmus* in parentheses): Standard length to end of last scute 116 (112, 135). Depth 22 (21, 27). Head length to end of bony opercle 36 (33, 41). Snout length from end adipose eyelid 19 (17, 20). Eye length, including adipose lid 12 (13, 16). Vertical diameter of eye 9 (7, 8). Bony interorbital width 5 (5.5, 6). Predorsal length 46 (44, 52). End dorsal base to adipose fin origin 32 (36, 43). Greatest breadth caudal peduncle including scute spines 10 (9, 13). Least depth caudal peduncle 6 (5, 7). Length dorsal spine 28 (32, 39). Length pectoral spine 27 (28, 32). Length pelvic fin 17 (20, 25). Greatest body width, in humeral region before pectoral base, 20 (19, 24).

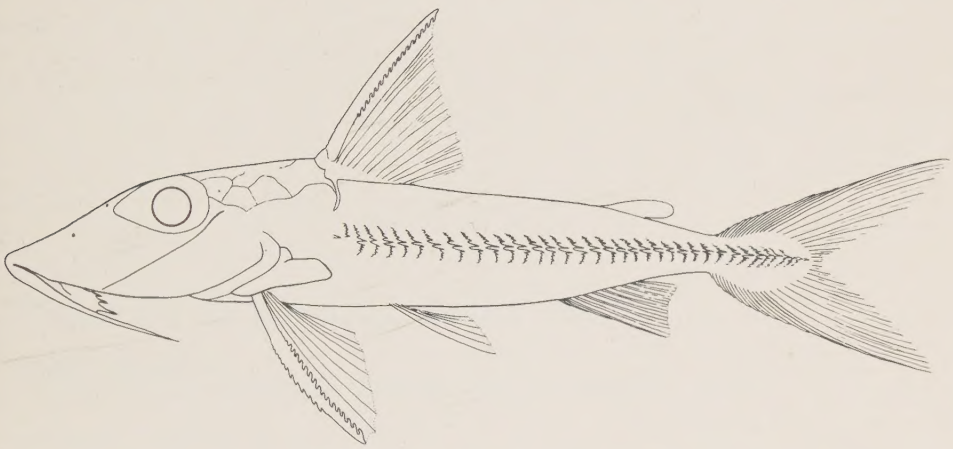

Fig. 1. *Hassar praelongus*. Holotype.

COLOR: Pale yellow-brown above, the scutes, belly and opercle whitish. Dorsum darkest adjacent to scutes, a darkish streak running out on caudal fin above and along scutes and another below, the rest of the fin whitish. Pectoral fin membrane dark. Proximal half of dorsal spine and base of dorsal fin black, this color rising towards the spine. Rest of dorsal fin clear. (In *H. lipophthalmus*: Body and fins generally dark smoky brown all over, the belly a little paler. Scutes not notably lighter in color. No streaks on caudal fin. Pectoral fin membranes dark brown. Dorsal with blackish coloration like *H. praelongus*.)

NOTES: This species differs strongly from *H. lipophthalmus* in color; the presence of a nuchal groove; the less elongate eye and adipose lid; a longer snout; a shorter dorsal spine; shorter pelvics; the better developed nature and deeper form of the anteriormost scutes; the greater number of subsidiary spines on the scutes; the lesser cranial bulge directly before the eyes; the slightly longer adipose fin; and several lesser characters. It is not close to any other known *Hassar*. The type is unique.

The type has been compared with Stanford material of *Hassar lipophthalmus* (Kner)(48713; São Gabriel, Rio Negro); *H. orestis* (Stdr.)(2234; Itaituba); and *H. wilderi* (Kindle)(2243; originally Cornell 1704; a syntype,

hereby designated lectoholotype of *wilderi;* Trocera, Rio Tocantins). Other known species are *affinis* (Stdr.), *notospilus* (Eig.)(all the above forms being referred to in Eigenmann's review (1925, Trans. Amer. Philos. Soc., n.s., vol. 21)), and three species more recently described by Fowler, *H. ucayalensis* (1939) and *woodi* and *iheringi* (1941).

Our comparative material of *H. lipophthalmus* from the Rio Negro differs somewhat from Kner's description and figure (1855, Sitzb. math.-naturw. Cl. k. Akad. Wiss. Wien, Bd. 17, p. 58, pl. 5, fig. 3), especially in the smaller size of the anterior scutes, but we believe it to be correctly identified.